



PRINTERS FAQ

Q You often say that six-colour inkjets produce less grainy photos than four-colour inkjets. Why is this?

A Inkjets print by firing tiny droplets of ink at paper, where they form coloured dots. Each individual dot is so small that it's hard for the eye to see, so an area of white paper containing coloured dots appears to contain a solid colour. By combining dots of cyan, magenta and yellow in varying proportions, a printer can trick the eye into seeing almost any colour. Packing an area with many dots creates a dark shade, while lighter shades require fewer dots.

It's extremely hard to make out individual yellow dots on a white background, but in bright areas of a print, cyan and magenta can be visible as tiny specks or grains.

Six-ink photo printers use paler shades of cyan and magenta ink to create the bright parts of an image. More dots are needed to make the same overall colour, so they can be more evenly distributed and each individual dot stands out less against the white background. Although the dots are still there, this makes them less noticeable and the photo seems more natural.

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Six-ink printers use paler shades of ink and create more natural-looking photos

REVIEW LASER PRINTER

DELL Laser Printer 1710n

RATING ★★★★★

PRICE £202 inc VAT and delivery

SUPPLIER Dell 08709 075818

DETAILS www.dell.co.uk



Dell's Laser Printer 1710n is one of the cheapest network-ready laser printers you can buy. Brother's HL-2070N, which we reviewed in *What's New, Shopper* May 2005, costs less, but we were unimpressed with its curled-paper output and high running costs.

Although small, the 1710n is quite a boxy device. It's made from the same austere blue plastic as many other Dell laser printers we've seen, but it looks smart and business-like. It arrives with its consumables in place, but these must be extracted for the easy removal of some packing material and replaced before you print.

The starter toner has a capacity of 3,000 pages, which is reasonable for this class of printer, and 6,000-page replacements are available for £58. The drum is good for 30,000 pages and costs just £31 to replace. The printer's running costs work out at less than 1.1p per page. This is lower than four of the printers in our Labs test of workgroup lasers in *Shopper* January 2006, which are all designed for higher-volume use.

Once connected to our test network, the 1710n automatically printed a configuration page confirming its network host name and the IP address it had leased. This can be essential information when setting up a network printer, so it's useful to have, but the installer's search utility quickly discovered the 1710n on our network automatically.

The printer has an engine speed of 26 pages per minute (ppm), and our testing confirmed that

it's no slouch. Printing with the PCL driver, it delivered our 50-page text document at more than 24ppm, dropping only slightly to 21.5ppm on our more complex mixed-colour test. Using the PostScript driver, the 1710n peaked at 24.4ppm when printing 50 copies of our single-page letter.

Complex PostScript jobs can tax a printer's processor, and the Dell dropped to just 8.3ppm when we repeated our mixed-colour test using the PostScript driver. Unusually, this printer was slightly quicker to print photos when using its PostScript driver, and the results were better.

The 1710n produced high-quality results on most of our tests, although some graphics were very dark with either driver. Like other Dell printers we've tested, the 1710n comes with no Mac drivers, but PC users will find it an effective and economical printer for small workgroup or heavy home use.

Simon Handby



Fast; good value; decent print quality; quiet



Some graphics come out dark

SPECIFICATIONS Mono laser printer, 1,200dpi, 26ppm maximum speed, USB, parallel and 10/100 Ethernet interfaces

HOTLIST LASER PRINTER

SAMSUNG ML-2250

RATING ★★★★★

PRICE £99 inc VAT

SUPPLIER www.savastore.com

DETAILS www.samsung.co.uk

Samsung's ML-2250 takes a single 5,000-page-rated consumable, which is enough for 10 reams of paper; each sheet costing 1.33p to print. Print quality is excellent. This printer has 16MB of memory and a 250-sheet input cassette, so it's well specified. You can also upgrade the memory and add networking. This is a great-value printer.



SPECIFICATIONS Mono laser, 1,200dpi, 20ppm maximum speed, USB Hi-Speed interface. Part code ML-2250/XEU

HOTLIST COLOUR LASER PRINTER

EPSON AcuLaser C1100

RATING ★★★★★

PRICE £207 inc VAT

SUPPLIER www.savastore.com

DETAILS www.epson.co.uk

Epson's C1100 is reasonably large for a four-pass colour laser, and it's more tricky than many to set up. In our tests it came commendably close to Epson's claimed speeds, but the most welcome discovery was its superb all-round print quality. This is an excellent, inexpensive printer with reasonable running costs.



SPECIFICATIONS Colour laser, 600dpi, 25ppm mono/5ppm colour maximum speed, USB Hi-Speed interface. Part code C11C567001

HOTLIST MONO LASER PRINTER

KYOCERA MITA FS-1920n

RATING ★★★★★

PRICE £474 inc VAT

SUPPLIER www.savastore.com

DETAILS www.kyoceramita.co.uk

This compact laser prints for less than half a penny a page, so it could save you a fortune over its 300,000-page lifetime. Toner cartridges are the only consumable, and each lasts for 15,000 pages. The FS-1920n is simple to maintain, but there's plenty of scope for upgrades if your needs increase.



SPECIFICATIONS Mono laser, 1,800x600dpi, 28ppm maximum speed, 10/100 Ethernet, USB and parallel interfaces. Part code FS-1920N

REVIEW INKJET PRINTER

EPSON Stylus Photo R340

RATING ★★★★★

PRICE £123 inc VAT

SUPPLIER www.dabs.com
DETAILS www.epson.co.uk

Compact 6x4" photo printers are currently outselling more conventional models, but a full-size printer has several advantages over its smaller cousins. Epson's Stylus Photo R340, for example, can print on A4 paper or suitably coated optical discs that are just too big to fit in a compact device.

Most compact photo inkjets don't have room for more than the cyan, magenta and yellow inks necessary for full-colour printing, but the R340 prints with six colours in six separate tanks. This can make it a little harder to keep track of ink levels, but it means that you never need to throw away unused ink in a tri-colour cartridge.

Printing with six inks can produce photos with less grain than a four-ink print (see the FAQ opposite), particularly with an inkjet that places ink on the page in small droplets. The R340's minimum droplet size of three picolitres is pretty small, and helps it produce photos with virtually no grain.

The R340 can make prints directly from almost any type of memory card or from a PictBridge digital camera. Memory cards can even be backed up on supported Zip drives or external CD writers connected to the printer's PictBridge port. A built-in 61mm screen previews the contents of an inserted card. There are several basic editing options, including adjustment of sharpness and contrast, but Epson's direct printing menu isn't the most intuitive we've seen.

The R340 is much slower than many other photo printers we've tested. Printing six borderless



6x4" photos took 22-and-a-half minutes, which is nearly twice the speed of HP's Photosmart 8250 (see the Hotlist on page 28). Fortunately, the results were superb, with bold, accurate colours and no trace of any grain.

On plain paper the R340 is similarly slow and, like many Epson inkjets we've tested, its draft output is faint and blocky. We ran our 50-page draft text test at the printer's Text setting. It completed the job at a limp 2.6 pages ppm. The Photosmart 8250 managed the same test at 18.5ppm and produced better text.

The R340 takes its time, but it produces superb photos. It's a great-value printer if photo quality is paramount, but the Photosmart 8250 is a much better all-rounder, and its photo quality is nearly as good.

Simon Handby

✓ Excellent photo prints with no visible grain; good value

✗ Slow; poor text printing

SPECIFICATIONS Six-colour inkjet, 5,760x1,440dpi maximum resolution, USB Hi-Speed and PictBridge USB interfaces. **Part code** C11C607101

HOTLIST INKJET PRINTER

CANON PIXMA iP1600

RATING ★★★★★

PRICE £38 inc VAT

SUPPLIER www.savastore.com
DETAILS www.canon.co.uk

This budget inkjet from Canon is basic: it doesn't even have an output tray to hold printed pages. It doesn't compromise on print speed or quality, but it is expensive to run. With mono pages costing around 7p and colour pages more than 11p each, it's a good choice if you print very rarely.



SPECIFICATIONS Four-colour inkjet, 4,800x1,200dpi maximum resolution, USB interface. **Part code** 9989A011AA

HOTLIST COLOUR LASER MFP

EPSON AcuLaser CX11NF

RATING ★★★★★

PRICE £587 inc VAT

SUPPLIER www.misco.co.uk
DETAILS www.epson.co.uk

Multifunction peripherals based on colour laser printers aren't getting any smaller, but they're finally affordable. This hulking Epson is the best example we've tested. It has built-in fax capability, a good scanner and great print quality. It's easy to install and use, but colour prints could be cheaper.



SPECIFICATIONS 600dpi print resolution, 25ppm mono/5ppm colour maximum speed, 600x600dpi scan resolution, USB Hi-Speed and 10/100 Ethernet interfaces. **Part code** C11C58081DA

BYTE SIZE!

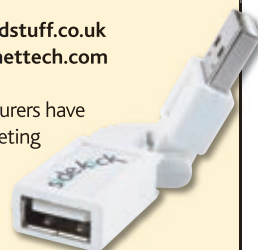


Our round-up of the best new gadgets and software

SONNET Sidekick

RATING ★★

PRICE £12 inc VAT

SUPPLIER www.ipodstuff.co.uk
DETAILS www.sonnnetech.com


Computer manufacturers have a nasty habit of secreting USB ports away in a recess. This might help to keep a PC or notebook's case tidy, but storage devices and MP3 players with their own integrated USB plug can be too big to fit into it. Some chunky devices might clear any case-side hurdles, only to obstruct a neighbouring port.

This adaptor from Sonnet fits into a USB socket, providing a single USB port that can be rotated or bent through a range of positions. It's easily portable and could allow you to connect a device in an awkward slot, but it's much more expensive than a short USB extension lead, which does a similar job.

Simon Handby

FSP Epsilon 600W

RATING ★★★★★

PRICE £102 inc VAT

SUPPLIER www.overclock.co.uk
DETAILS www.fsp-group.com

If you're building or upgrading to a highly specified PC, you'll need a power supply that meets its demands. Few computers are likely to need more than the 600 watts pumped out by this supply, but for another £15 or so you can get a mighty 700-watt version. FSP says that the Epsilon is more than 85 per cent efficient, which should keep electricity bills down.

A huge range of power plugs sprout from the Epsilon's eight sheathed wire looms. It has two PCI Express connectors, but hasn't been certified for SLI systems by nVidia. We'd recommend a certified PSU if you are building an SLI system, but this expensive supply is a fair choice elsewhere.

Simon Handby





REVIEW MULTIFUNCTION PERIPHERAL

HP
Photosmart 3210

RATING ★★★★★

PRICE £188 inc VAT

SUPPLIER www.savastore.comDETAILS www.hp.co.uk

HP's Photosmart 3210 has replaced the Photosmart 2610, which entered our Hotlist after winning a Best Buy award in our last multifunction peripheral (MFP) Labs test in *Shopper* June 2005. It's designed for photography and other creative uses, and is based on the Photosmart 8250 printer, which itself is currently in our Hotlist below.

The 3210 doesn't have the 2610's fax/modem facility, but it does have an Ethernet port. It's easy to connect to the 3210 via USB or through a home network, where the setup program can automatically find and install it. Frustratingly, however, the minimum installation includes HP's Image Zone Express software and requires a whopping 395MB of disk space.

Scan performance can often be weak on an MFP, but the 3210's scanner has promising specifications that include an optical resolution of 4,800 dots per inch (dpi). Very few MFPs have the backlight necessary to capture film, but the 3210 can scan up to four 35mm negatives or slides in one batch.

Unfortunately, HP's cumbersome TWAIN interface doesn't make the job very easy. It won't automatically remember settings between sessions, and has no quick thumbnail mode for film previews. The quality of our reflective test scans was fine, but images we captured from film were a little softly focused.

Scanning was swift enough at resolutions of 600dpi or less, but it became tediously slow at

higher resolutions. Scanning a 6x4" photograph at 1,200dpi took one minute and 49 seconds, while a single negative took over five minutes at 2,400dpi. The scanner's warm film backlight also managed to curl our test negatives.

Loading the 3210 with A4 paper is a little tricky, but its printer is otherwise hard to fault. It took just 11-and-a-quarter minutes to finish six borderless 6x4" photos at the highest quality setting. Draft text appeared at an impressive 17.9 ppm, although at this speed the pile of printed paper was a little untidy. Print quality was found to be very high on all our plain and photo paper tests.

The Photosmart 3210 can't send faxes and its scanner isn't fast enough or good enough for advanced creative users. However, it has a standard network port and costs only around £50 more than the Photosmart 8250 printer, so it is great value.

Simon Handby

✓ Fast, high-quality printer; good value

✗ Slow scans at high resolution; wearisome scan interface; no fax

SPECIFICATIONS 4,800x1,200dpi print resolution, 4,800x4,800dpi scan resolution, USB Hi-Speed, PictBridge USB and 10/100 Ethernet interfaces. Part code Q5843B

CHOOSING A...
**LASER
PRINTER**

Follow our step-by-step guide to identify your ideal laser

1 Prices for A4 laser printers start at around £70, with specs such as those below. These models are fine for users who print less than one packet of paper a month. Look for good print quality, flexible drivers and running costs below 2p per page. It should ideally hold paper clean and flat in a horizontal tray and allow manual feeding of headed paper and envelopes with no creasing.

2 You must spend more for a printer with the build quality and speed to cope with a heavy workload. Heavy users or small workgroups need up to 25 pages per minute (ppm), and whole departments need even more. Bulk printing demands costs of 1p per page or less.

3 Colour lasers are now available for less than £200, but at this price they will print colour far slower than mono. If colour speed is important, consider spending £400 or more to get a single-pass model.

4 Support for a printer language such as Printer Control Language (PCL) 6 or PostScript 3 means you can use the printer with any computer. Not all lasers print graphics well, but a 1,200dpi resolution helps. Colour lasers can print high-quality graphics, but should have at least 32MB of memory.

5 A network adaptor allows you to connect a printer to an Ethernet network, so all the network users can print to it directly. Smaller groups can use a PC to host and share any printer.

6 Duplex printing is an increasingly affordable option. A scanner/fax unit turns your printer into a MFP. Large groups should get multiple paper trays to deal with headed paper and other stationery.

FILL IN YOUR SPECS HERE
(Recommended minimum in grey)

RESOLUTION: 600x600dpi

MEMORY: 8MB

SPEED: 12ppm

INTERFACES: USB

PAGES PER MONTH: 5,000

PAPER TRAYS: 150-sheet A4

OPTIONS:

HOTLIST INKJET PRINTER

HP
Photosmart 8250

RATING ★★★★★

PRICE £135 inc VAT

SUPPLIER www.dabs.comDETAILS www.hp.co.uk

The Photosmart 8250 produces excellent print quality on plain or coated paper. It's one of the fastest photo printers we've tested, but it also dashed off our draft text test at 18.5ppm. It has easy-to-use direct photo-printing features, and low running costs make it a superb all-rounder.



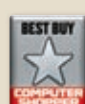
SPECIFICATIONS Six-colour inkjet, 4,800x1,200dpi maximum resolution, USB Hi-Speed and PictBridge USB interfaces. Part code Q3470B

HOTLIST INKJET PRINTER

HP
DeskJet 5940

RATING ★★★★★

PRICE £69 inc VAT

SUPPLIER www.misco.co.ukDETAILS www.hp.co.uk

A metal lid lends a touch of class to this mid-range inkjet, but the supplied 800-page black cartridge makes it incredibly good value. It's also very fast, reaching 20ppm in our draft text test.



Low mono running costs of 2.2p per page helped it eclipse the competition in our recent inkjet Labs test.

SPECIFICATIONS Four-colour inkjet, 4,800x1,200dpi maximum resolution, USB and PictBridge USB interfaces. Part code C9017B